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Evaluation of the Traditional Practices of Breastfeeding, Complementary Feeding and Increasing Breast Milk in Mothers with 0-24 Month-Old Infants: A Cross-Sectional Study

Evaluación de las prácticas tradicionales de lactancia materna, alimentación complementaria y aumento de la leche materna en madres con lactantes de 0 a 24 meses: Un estudio transversal

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ABSTRACT

Introduction: To evaluate the traditional practices of breastfeeding, complementary feeding, and increasing breast milk in mothers with 0-24 month-old infants.

Material and methods: The study sample includes 215 mothers with 0-24 month-old infants. The mothers' socio-demographic characteristics, knowledge and behaviors regarding breast milk, complementary feeding, and traditional practices for increasing breast milk were questioned.

Results: 60.0% of the infants were exclusively breastfed in the first six months. There was a significant difference between the mothers' educational levels and the frequency of breastfeeding ($p<0.001$). A significant difference was observed between the educational level of the mothers and the first complementary food given to the infants ($p=0.046$). The rate of mothers who breastfed less frequently after introducing to complementary feeding was significantly lower in the group with a low level of education compared to the group with a high level of education ($p=0.040$). The rate of receiving training from a healthcare professional specialized in breastfeeding before and after birth was significantly higher in the group with a high level of education (41.1% and 52.8%, respectively) than the group with a low level of education (17.3% and 15.4%) ($p=0.002$ and $p<0.001$, respectively). The rate of those who knew that breast milk alone was sufficient for feeding the infant in the first six months was significantly higher in the group with a high level of education (96.3%) than the group with a low level of education (86.5%) ($p=0.017$). Percentage of mothers with a high educational level who consume herbal tea (17.8%) is higher than those with low educational level (4.0%). There is a statistically significant difference between the educational status of mothers and traditional practices to increase breast milk ($p<0.001$).

Conclusions: Mothers had imperfect knowledge regarding breastfeeding and complementary feeding. They should be educated by healthcare professionals to eliminate deficiencies and correct their current practices.

Keywords: Breast Feeding; Infant Nutritional Physiological Phenomena; Knowledge; Feeding Behavior.

Entry term(s): exclusively breastfeeding; breastfeeding knowledge; breastfeeding practices; complementary feeding.

RESUMEN

Introducción: Evaluar las prácticas tradicionales de lactancia materna, alimentación complementaria y aumento de la leche materna en madres con bebés de 0-24 meses.

Material y métodos: La muestra del estudio incluye 215 madres con bebés de 0-24 meses. Se utilizó un cuestionario sobre las características sociodemográficas, los conocimientos y comportamientos de las madres con respecto a la leche materna, la alimentación complementaria y las prácticas tradicionales para aumentar la leche materna.

Resultados: el 60,0% de los lactantes fueron amamantados exclusivamente en los primeros seis meses. Hubo una diferencia significativa entre los niveles educativos de las madres y la frecuencia de la lactancia materna (p<0,001). Se observó una diferencia significativa entre el nivel educativo de las madres y el primer alimento complementario dado a los lactantes (p=0,046). La tasa de madres que amamantaron con menor frecuencia después de la introducción a la alimentación complementaria fue significativamente menor en el grupo con bajo nivel educativo en comparación con el grupo con alto nivel educativo (p=0,040). La tasa de formación de un profesional sanitario especializado en lactancia materna antes y después del parto fue significativamente mayor en el grupo con alto nivel educativo (41,1% y 52,8%, respectivamente) que en el grupo con bajo nivel educativo (17,3% y 15,4%) (p=0,002 y p<0,001, respectivamente). La tasa de quienes sabían que la leche materna sola era suficiente para alimentar al lactante en los primeros seis meses fue significativamente mayor en el grupo con un alto nivel de educación (96,3%) que en el grupo con un bajo nivel de educación (86,5%) (p=0,017). El porcentaje de madres con alto nivel educativo que consumen té de hierbas (17,8%) es superior al de madres con bajo nivel educativo (4,0%). Existe una diferencia estadísticamente significativa entre el nivel educativo de las madres y las prácticas tradicionales para aumentar la leche materna (p<0,001).

Conclusiones: las madres tenían conocimientos imperfectos sobre la lactancia materna y la alimentación complementaria. Deben ser educados por profesionales de la salud para eliminar las deficiencias y corregir sus prácticas actuales.

Palabras clave: Lactancia Materna; Fenómenos Fisiológicos Nutricionales del Lactante; Conocimiento; Conducta Alimentaria.

Entry term(s): lactancia materna exclusiva; conocimientos sobre lactancia materna; prácticas de lactancia materna; alimentación complementaria.

KEY MESSAGES

- Mothers should be encouraged to breastfeed exclusively for the first 6 months.
- Mothers should be supported to increase the frequency of breastfeeding.
- Mothers should be advised to increase their fluid intake for increasing milk production.
- Healtcare professionals, including dietitians, should raise awareness among mothers on breastfeeding, complementary feeding, and traditional practices for increasing breastmilk.

INTRODUCTION

Breast milk is a miracle food that meets all physiological and psychosocial needs of an infant in the first six months, half of them in 6-12 months, and one-third of them in 12-24 months[1]. Breastfeeding has many benefits for both the infant and the mother. Diseases such as otitis, gastrointestinal infections, obesity, and diabetes are less common in breastfed infants, and ovarian cancer, endometrial cancer, and osteoporosis in breastfeeding mothers[2]. Research shows that breastfeeding is not only a vital source of nutrition for the infant but it also has a wide range of critical effects on cognitive skills, behavior and mental health of children and mothers, which makes it more than a simple meal. Furthermore, it is believed to help build maternal sensitivity and ensure that mother and child bond with each other[3]. Worldwide, it is estimated that approximately 823,000 child deaths and 20,000 breast cancer-related deaths in 1 year can be prevented by breastfeeding[4].

World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) recommend that breastfeeding be initiated within the first hour after birth and that infants be exclusively breastfed without any additional food, drink, or water for the first six months. However, it is suggested that breastfeeding should continue until the age of 2 and above with adequate complementary feeding provided based on the month in the period after six months[5,6]. The World Health Organization supports the improvement of breastfeeding all over the world and aims to increase the rate of breastfeeding in the first six months by at least 50% by 2025[6].

Despite the known benefits of breastfeeding for the infant, mother, and public health, breastfeeding rates are low in the world and Turkey[7]. The UNICEF stated that in 2018, the average of exclusive breastfeeding in infants under six months was 42% globally, and 30% in the Middle East and North Africa[8]. In 2018, Disease Control Centers reported that 83.2% of infants in the United States of America (USA) were breastfed. 24.9% of the breastfed infants were exclusively breastfed for the first six months[9]. In 2018, Turkey Demographic and Health Survey (TDHS) report suggested that breastfeeding was quite common in Turkey and that 98% of all the children were breastfed for a period of time. The report also showed that 71% of infants were breastfed within the first hour after they were born. Nevertheless, it was reported that 41% of infants younger than 6 months were exclusively breastfed[10]. In 2019, Turkey Health Statistics report indicated that 28.7% of infants were exclusively breastfed in the first six months[11]. The most common reason leading mothers to not exclusively breastfeeding their infants in the first six months and introducing to complementary foods in the early period is that they think that

breast milk is not adequate[12,13]. Contrary to the recommendation that children under six months should be exclusively breastfed, the TDHS 2018 report stated that 23% of children consumed milk other than breast milk, and 12% of children consumed complementary foods to breast milk[10].

In the postpartum period, mothers who have just given birth can apply complementary and alternative medicine methods to increase breast milk, reduce pain and blood loss, and accelerate wound healing[14-16]. It is believed that the knowledge of mothers on the traditional practices for breastfeeding, complementary feeding, and increasing breast milk will be a guide in the training to be planned on infant nutrition for the society. Based on such reasons, this study aimed to evaluate the traditional practices of mothers with infants between 0-24 months of age for breastfeeding, complementary feeding, and increasing breast milk.

MATERIAL AND METHODS

Study design

This is a descriptive and cross-sectional questionnaire study carried out on mothers with 0-24 month-old infants. It included 215 mothers who applied to the Healthy Child Follow-up Outpatient Clinic at the T.R. Health Sciences University İzmir Tepecik Training and Research Hospital between September 2019 and February 2020. Written consent was obtained from all participants at the beginning of study which was approved by the Ethics Committee of İzmir Kâtip Çelebi University, Turkey (Approval number 368, 28.08.2019).

Participants and sample

The universe of the study was determined as 4800, taking into account the number of mothers admitted to clinic in the previous year. The sample size was calculated as 197 with 90 percent confidence interval, 0.05 margin of error and 25% expected prevalence. In terms of better representation of the universe, the study was completed with 215 participants. Mothers were taken to the study until they reached the sample size using the random sample method, which is one of the improbable sample methods in sample selection.

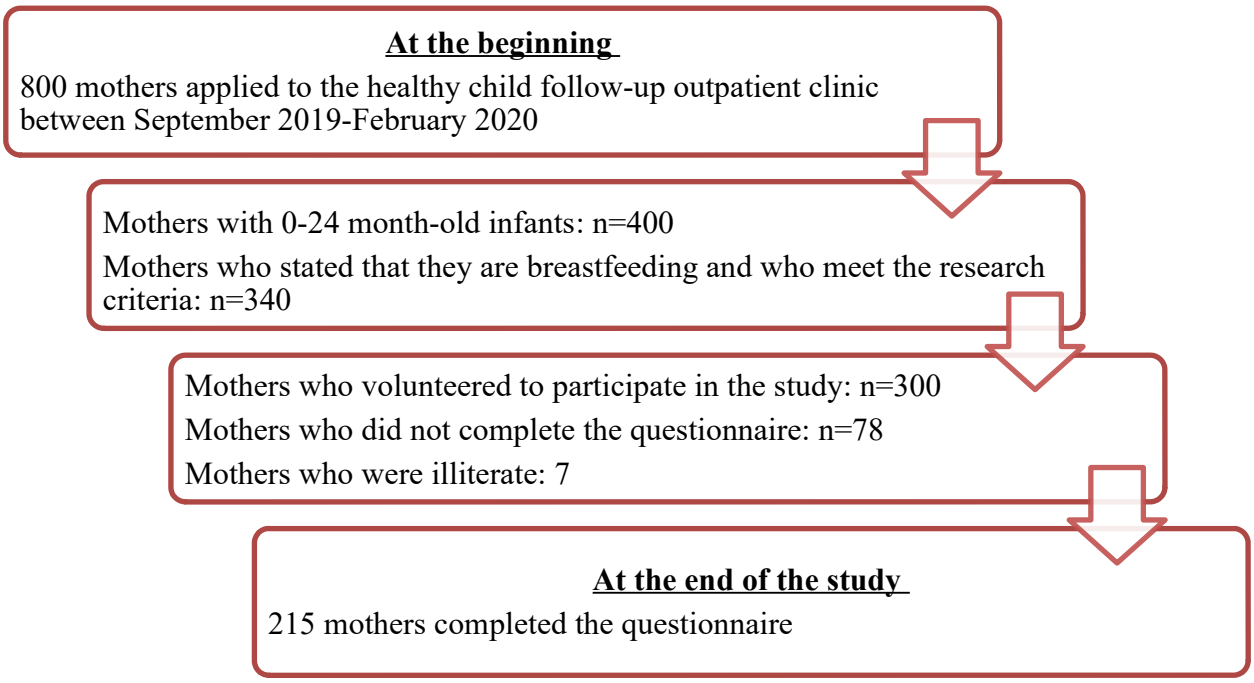
Inclusion criteria

Mothers who already delivered their baby and those with a child who is below 24 months old were included in this study.

Exclusion criteria

Mothers or infants with health problems that could affect breastfeeding (such as hereditary diseases, metabolic diseases, long-term hospitalization) and infants who did not suck were excluded from the study. Participant selection scheme was shown in Figure 1.

Figure 1. Participant selection scheme.



Variables and instruments

The knowledge and behaviors of the mothers regarding breast milk, complementary feeding, and traditional practices they applied to increase breast milk were questioned by the researcher using the face-to-face interview method and recorded in the questionnaire form. The questionnaire form consisted of 5 sections. The general information about the mother and the infant was questioned in the first part; the knowledge and behaviors of the mother about the breastfeeding period in the second part; their knowledge and behaviors about breast milk in the third part; their knowledge and behaviors about complementary feeding in the fourth part; and the traditional practices they used to increase their breast milk in the fifth part.

Statistical Analyses

SPSS (Statistical Package for Social Sciences) Windows 22.0 (SPSS Inc., Chicago, IL, ABD) packaged software was used for statistical analyses. Normal distribution of data was determined with Kolmogorov-Smirnov test. Descriptive statistics (mean, standard deviation) were used in the evaluation of quantitative data. Categorical data were displayed in numbers and percentages and interpreted with the pearson chi-square statistics using cross tables in the correlation tests between nominal variables. A p value of <0.05 was considered statistically significant, and the p value was two-sided.

RESULTS

Sociodemographic characteristics of the participating mothers and their infants based on mothers' educational levels are shown in Table 1. The mean age of the mothers was 28.9 ± 5.11, and more than half of them (65.5%, n=141) were aged 25-34. Almost half of the mothers (41.3%, n=89) were housewives, and half of them (50.2%, n=108) had one child. There is a statistically significant difference between the educational status of mothers and the age, working status and number of children ($p=0.024$, $p<0.001$, $p<0.001$, respectively). The general characteristics of the infants were investigated. 46.5% (n=100) were girls and 53.5% (n=115) were boys. 30.2% (n=65) of them were born vaginally, and 69.8% (n=150) were delivered by cesarean section. 71.6% (n=154) of them were born at term, and 14.0% (n=30) were born preterm (before week 37). The vast majority of infants (82.8%, n=178) had a birth weight of 2,500-4,000 g, and 11.6% (n=25) of them were low birth weight (<2,500 g).

Table 1. Sociodemographic characteristics of the mothers and infants based on mothers' educational status (n=215).

Variable		Educational Level		Total	*p*
		Primary-Secondary	≥High school		
		n (%)	n (%)	n (%)	
Maternal characteristics					
Age (years)					
	18-24	16 (30.8)	28 (17.2)	44 (20.5)	0,024*
	25-34	26 (50.0)	115 (70.6)	141 (65.5)	
	≥35	10 (19.2)	20 (12.2)	30 (14.0)	
Employment status					
	Unemployed	3 (5.8)	47 (28.8)	50 (23.3)	<0.001*
	Officer	-	45 (27.6)	45 (20.9)	
	Worker	1 (1.9)	3 (1.8)	4 (1.9)	
	Housewife	47 (90.4)	42 (25.8)	89 (41.3)	
	Self-employed	1 (1.9)	1 (0.7)	2 (0.9)	
	Private sector	-	18 (11.0)	18 (8.4)	
	Other	-	7 (4.3)	7 (3.3)	
Number of children					
	1	13 (25.0)	95 (58.3)	108 (50.2)	<0.001*
	2	16 (30.8)	56 (34.4)	72 (33.5)	
	≥3	23 (44.2)	12 (7.3)	35 (16.3)	
Type of delivery					
	Vaginal	17 (32.7)	48 (29.4)	65 (30.2)	0.657
	Cesarean section	35 (67.3)	115 (70.6)	150 (69.8)	
Infants characteristics					
Gender					
	Girl	28 (53.8)	72 (44.2)	100 (46.5)	0.223
	Boy	24 (46.2)	91 (55.8)	115 (53.5)	
Gestational age (week)					
	<37	8 (15.4)	22 (13.5)	30 (14.0)	0.520
	37-40	39 (75.0)	115 (70.5)	154 (71.6)	
	>40	5 (9.6)	26 (16.0)	31 (14.4)	
Birth weight (g)					
	<2500	10 (19.2)	15 (9.2)	25 (11.6)	0.141
	2500-4000	39 (75.0)	139 (85.3)	178 (82.8)	
	>4000	3 (5.8)	9 (5.5)	12 (5.6)	

*Pearson's chi-square, *p<0.05*

Table 2 shows the behaviors of the mothers regarding breast milk and complementary foods based on their educational status. 55.9% (n=29) of the mothers who were primary or secondary school graduates and 61.5% (n=100) who were at least high school graduates stated that they exclusively breastfed their infants for the first six months. When the frequency of breastfeeding was evaluated, it was seen that 57.1% (n=28) of the mothers who were primary or secondary school graduates breastfed their infants every time they cried, and 40.8% (n=58) of the mothers who were at least high school graduates breastfed their infants every two hours. A significant difference was observed between the educational level of the mothers and the frequency of breastfeeding ($p<0.001$). More than half of the mothers (primary-secondary school graduates: 65.7% (n=23), high school, and above graduates: 63.4% (n=85), respectively) preferred to start complementary feeding with yogurt. A significant difference was observed between the educational level of the mothers and the first complementary food given to the infants ($p=0.046$). The rate of mothers who breastfed less frequently after introducing to complementary feeding was significantly lower in the group with a low level of education compared to the group with a high level of education ($p=0.040$).

Table 3 shows the attitudes and behaviors of the mothers during the breastfeeding period based on their educational status. The rate of receiving training from a healthcare professional specialized in breastfeeding before and after birth was significantly higher in the group with a high level of education (41.1% (n=67) and 52.8% (n=86), respectively) than the group with a low level of education (17.3% (n=9) and 15.4% (n=8)) ($p=0.002$ and $p<0.001$, respectively).

Table 2. Evaluation of mothers' behaviors regarding breast milk and complementary foods based on their educational status.

Variable	Educational Level		Total	*p*
	Primary-Secondary n (%)	≥High school n (%)	n (%)	
Feeding practices among infants aged 0-6 months (n=215)				
Exclusive breastfeeding	29 (55.9)	100 (61.5)	129 (60.0)	
Breasfeeding+formula	18 (34.6)	45 (27.6)	63 (29.3)	
Formula	1 (1.9)	3 (1.8)	4 (1.9)	0.765
Breastfeeding+water	2 (3.8)	9 (5.5)	11 (5.1)	
Breastfeeding+complementary foods	2 (3.8)	3 (1.8)	5 (2.3)	
Breastfeeding+water+complementary foods	-	3 (1.8)	3 (1.4)	
Daily frequency of breastfeeding (n=191)				
Every ½ hour	8 (16.3)	4 (2.8)	12 (6.2)	
Every 1 hours	6 (12.2)	22 (15.5)	28 (14.7)	<0.001*
Every time infants cried	28 (57.1)	44 (31.0)	72 (37.7)	
Every 2 hours	5 (10.2)	58 (40.8)	63 (33.0)	
Other	2 (4.2)	14 (9.9)	16 (8.4)	
First complementary food given (n=169)				
Soup	7 (20.0)	12 (9.0)	19 (11.2)	
Yoghurt	23 (65.7)	85 (63.4)	108 (63.9)	
Egg	2 (5.7)	-	2 (1.2)	
Water	-	8 (6.0)	8 (4.7)	0.046*
Fruit juice	-	7 (5.2)	7 (4.1)	
Fruit puree	2 (5.7)	13 (9.7)	15 (8.9)	
Vegetable puree	-	5 (3.7)	5 (3.0)	
Other	1 (2.9)	4 (3.0)	5 (3.0)	
Reason for starting complementary foods before 6th month (n=67)				
Mother felt that breast milk was inadequate	3 (27.3)	9 (16.1)	12 (17.9)	
Insufficient body weight gain	2 (18.2)	8 (14.3)	10 (14.9)	0.157
To practice	6 (54.5)	19 (33.9)	25 (37.3)	
Working mother	-	3 (5.4)	3 (4.5)	
Inadequate milk secretion	-	17 (30.4)	17 (25.4)	
Source of complementary feeding information (n=159)				
Family/friend	6 (21.4)	23 (17.6)	29 (18.2)	
Dietitian	2 (7.2)	7 (5.3)	9 (5.7)	
Midwives/nurse	6 (21.4)	20 (15.3)	26 (16.4)	0.407
Doctor	10 (35.7)	65 (49.6)	75 (47.2)	
Media or literature	-	7 (5.3)	7 (4.3)	
Other	4 (14.3)	9 (6.9)	13 (8.2)	
Decrease in breastfeeding frequency when introducing to complementary feeding (n=163)				
Yes	8 (24.2)	57 (43.8)	65 (39.9)	0.040*
No	25 (75.8)	73 (56.2)	98 (60.1)	

*Pearson's chi-square, *p<0.05*

Table 3. Assessment of mothers ' attitudes and behaviors during breastfeeding period based on their educational status.

Variable	Educational Level			*p*
	Primary-Secondary n (%)	≥High school n (%)	Total n (%)	
Receiving training by healthcare professionals about breastfeeding before birth (n=215)				
Yes	9 (17.3)	67 (41.1)	76 (35.3)	0.002*
No	43 (82.7)	96 (58.9)	139 (64.7)	
Receiving training by healthcare professionals about breastfeeding after birth (n=215)				
Yes	8 (15.4)	86 (52.8)	94 (43.7)	<0.001*
No	44 (84.6)	77 (47.2)	121 (56.3)	
Source of breastfeeding information (n=153)				0.792
Family/friends	2 (12.5)	27 (19.7)	29 (19.0)	
Dietitian	-	2 (1.5)	2 (1.3)	
Midwives/nurse	9 (56.2)	78 (56.9)	87 (56.8)	
Doctor	3 (18.8)	14 (10.2)	17 (11.1)	
Media/literature	2 (12.5)	12 (8.8)	14 (9.2)	
Other	-	4 (2.9)	4 (2.6)	

*Pearson's chi-square, *p<0.05*

Table 4 displays the knowledge of the mothers on breast milk, formula, and complementary feeding based on their educational status. The rate of having heard of colostrum among mothers with a high level of education (80.4%, n=131) was significantly higher than the group with a low level of education (30.8%, n=16) ($p<0.001$). The rate of those who knew that breast milk alone was sufficient for feeding the infant in the first six months was significantly higher in the group with a high level of education (96.3%, n=157) than the group with a low level of education (86.5%, n=45) ($p=0.017$).

Table 4. Evaluation of the knowledge of the mothers on breast milk, formula, and complementary feeding based on their educational status.

Variable	Educational Level			*p*
	Primary-Secondary n (%)	≥High school n (%)	Total n (%)	
Ever heard of colostrum (n=215)				
Yes	16 (30.8)	131 (80.4)	147 (68.4)	<0.001*
No	36 (69.2)	32 (19.6)	68 (31.6)	
Breast milk alone is sufficient for feeding the infant in the first six months (n=215)				
True	45 (86.5)	157 (96.3)	202 (94.0)	0.017*
False	7 (13.5)	6 (3.7)	13 (6.0)	
When should be the first time the baby starts breastfeeding after birth? (n=215)				
<1 hour	48 (92.3)	130 (79.8)	178 (82.8)	
1-3 hours	4 (7.7)	28 (17.2)	32 (14.9)	0.239
3-12 hours	-	3 (1.8)	3 (1.4)	
12-24 hours	-	2 (1.2)	2 (0.9)	
Timing of introduction of complementary foods (month) (n=196)				
0-3	2 (4.6)	1 (0.6)	3 (1.5)	0.054
4-<6	6 (14.0)	14 (9.2)	20 (10.2)	
6	12 (27.9)	28 (18.3)	40 (20.4)	
>6	23 (53.5)	110 (71.9)	133 (67.9)	
If the baby is still hungry, complementary food should be given before the 6th month (n=194)				
True	25 (61.0)	70 (45.8)	95 (49.0)	0.083
False	16 (39.0)	83 (54.2)	99 (51.0)	
Complementary foods should be given in spoon/glass, never using a bottle (n=195)				
True	33 (80.5)	120 (77.9)	153 (78.5)	0.722
False	8 (19.5)	34 (22.1)	42 (21.5)	
Feeding with formula instead of breast milk may cause health problems in the future (n=115)				
True	17 (81.0)	55 (58.5)	72 (62.6)	0.055
False	4 (19.0)	39 (41.5)	43 (37.4)	
Body weight gain is higher in those fed with formula (n=109)				
True	16 (76.2)	55 (62.5)	71 (65.1)	0.237
False	5 (23.8)	33 (37.5)	38 (34.9)	
Increase in height is higher in those fed with formula (n=110)				
True	7 (33.3)	25 (28.1)	32 (29.1)	0.634
False	14 (66.7)	64 (71.9)	78 (70.9)	

*Pearson's chi-square, *p<0.05*

The distribution of the traditional practices performed by the mothers to increase breast milk based on their educational level is shown in Table 5. 40.4% (n=86) of the mothers stated that they consumed plenty of water and fluids to increase their breast milk, 18.3% (n=39) of them frequently breastfed their infants. While 43.2% (n=92) of the mothers did not consume any food in particular to increase their milk, 14.6% (n=31) preferred herbal teas. Percentage of mothers with a high educational level who consume herbal tea (17.8%) is higher than those with low educational level (4.0%). There is a statistically significant difference between the educational status of mothers and traditional practices to increase breast milk ($p<0.001$).

Table 5. The distribution of the traditional practices performed by the mothers to increase breast milk based on their educational status (n=213).

Variable	Educational Level			*p*
	Primary-Secondary n (%)	≥High school n (%)	Total n (%)	
Traditional practises to increase breast milk				
I don't do anything	23 (46.0)	28 (17.2)	51 (23.9)	
I didn't drink water for the first 24 hours after birth.	1 (2.0)	-	1 (0.5)	
I consume plenty of water and fluids	19 (38.0)	67 (41.1)	86 (40.4)	<0.001*
I eat enough and balanced from every food group.	4 (8.0)	29 (17.8)	33 (15.5)	
I drank the parsley juice.	1 (2.0)	2 (1.2)	3 (1.4)	
I frequently breastfed my infant	2 (4.0)	37 (22.7)	39 (18.3)	
Are there foods that you especially eat to increase your milk, what do you eat, if any?				
No	30 (60.0)	62 (38.0)	92 (43.2)	
Milk and dairy products	7 (14.0)	12 (7.4)	19 (8.9)	
Herbal teas	2 (4.0)	29 (17.8)	31 (14.6)	
Molasses	3 (6.0)	8 (4.9)	11 (5.2)	
Soups	3 (6.0)	8 (4.9)	11 (5.2)	0.047*
Dill	-	8 (4.9)	8 (3.8)	
Onion, garlic	-	6 (3.7)	6 (2.7)	
Tahini	-	9 (5.5)	9 (4.2)	
Other	5 (10.0)	21 (12.9)	26 (12.2)	

*Pearson's chi-square, *p<0.05*

DISCUSSION

All infants have the right to adequate nutrition to be healthy and maintain their health. Breastfeeding is the ideal method that provides this right to infants. In this regard, the Public Health Agency of Turkey identified the "execution of promoting, supporting, and maintaining breastfeeding" as a goal in the Strategic Plan of 2014-2017[17].

Exclusively breastfeeding infants for the first six months prevents infections and provides all the nutrients and fluids an infant needs for optimal growth and development[10]. In its report analyzing the duration of breastfeeding in 108 member countries of the United Nations, the WHO defined that the rate of exclusive breastfeeding in the first six months was 32%[18]. According to the 2018 TDHS data, the rate of exclusive breastfeeding in the 6th month was 41.0% in Turkey[10]. In this study, the rate of infants exclusively breastfed in the first six months was 60.0%. Similarly, in the study by Gümüştakım et al., the rate of exclusive breastfeeding in the first six months was found to be 60.4%[19]. There are studies showing that the rate of exclusive breastfeeding in the first six months rises as the educational level of the mother increases[20-22]. In this study, although there was no relationship between breastfeeding status in the first six months and the educational level of the mother, a significant relationship was observed between breastfeeding frequency and the level of education. Many studies have been conducted on exclusive breastfeeding for the first six months in our country, as in the whole world; however, we have a long way to go in understanding the importance of breast milk. The transition from exclusive breastfeeding to complementary feeding is the period when infants are most vulnerable to malnutrition, and during this time they must consume soft, semi-solid, or solid foods[10]. Introducing complementary foods early or late is thought to be a risk factor for celiac and type 1 diabetes[23]. A study conducted with 1482 children of 6-36 months showed that 16.3% of the mothers introduced to complementary food before the 4th month, and 38.3% between 4-<6 months[24]. The rate of introducing to complementary food before the sixth month was reported as 8% in TDHS in 2008 and 12% in 2013[25]. In a similar study conducted in Turkey, the average time of introducing to complementary foods corresponds to the 5th-6th month[26]. In this study, the fact that more than half of the mothers (66.8%) started complementary feeding after the 6th month is in line with the recommendations of WHO and UNICEF.

The more knowledgeable mothers are about breast milk and complementary feeding, the more knowledgeable society will become and reflect it on their behaviors[19]. In the evidence-based guidelines, practical training is recommended to support breastfeeding[27]. The studies conducted

on this subject have revealed that the education provided for the mother by healthcare professionals before and after birth increases the rate of breastfeeding and avoids early initiation of complementary foods[28,29]. This study found that the rate of obtaining information about breastfeeding during pregnancy was 35.3% and 43.7% in the postpartum period. A similar study, conducted by Eker and Yurdakul reported that the rate of obtaining information about breastfeeding during pregnancy was 55.4%, and 68.5% in the postpartum period[30]. Another study has shown that the support provided for the mother in breastfeeding by healthcare professionals significantly increases the duration of the exclusive breastfeeding of the infant[31]. Breastfeeding is a natural process that requires teaching and learning. In this process, it is crucial for healthcare professionals to provide support for mothers with information and visual tools both in the prenatal and early postpartum periods.

It is critical for both mother and child that breastfeeding starts in the first hour of the postpartum period, as well as exclusively breastfeeding infants for the first six months and continuing breastfeeding until the age of two. The UNICEF has reported that 77 million newborns are not breastfed within one hour of birth. Early initiation of breastfeeding is a life or death issue, as almost half of deaths among children under the age of five occur within a short time after birth. A meta-analysis of five studies suggested that the risk of death is 33% higher in infants breastfed 2-23 hours after birth compared to those breastfed 1 hour after birth[32]. Breastfeeding rate within the first hour after birth was 56% in Eastern Europe and Central Asia, 40% in West and Central Africa, 40% in South Asia, 35% in the Middle East and North Africa, 32% in East Asia and the Pacific and 65% in East and South Africa[33]. In this study, the majority of the mothers (82.8%) stated that infants should be breastfed within the first hour after birth. Almost all of them (96.3%) stated that exclusive breastfeeding for the first six months was sufficient for the infant. Turkey Demographic and Health Survey reported that the rate of breastfeeding within the first 1 hour after birth was 50% in 2013, and 71% in 2018[10,25]. Since the majority of the mothers participating in this study were university graduates, they might be more knowledgeable about breastfeeding time and breastfeeding.

Many practices are known to be performed on food consumption to increase breast milk. Erkaya et al.'s study showed that almost all mothers (85.1%) were engaged in certain practices to increase their milk[34]. Dinç et al.'s study found that 57.5% of the drinks consumed to increase breast milk was herbal teas, 38.2% was milk, 37.7% was fruit juice, and 22.2% was puerperal sherbet[35]. The study evaluating the knowledge of breastfeeding mothers about the importance of breastfeeding showed that 37% of them consumed only water and stew, and 26% drank milk

inducing teas to increase their milk. Although there is information that herbal teas such as fennel tea increase breast milk, there is not enough evidence about the effect of herbal teas on breast milk[36]. This study showed that 40.4% of the mothers consumed plenty of water and stew, and 14.6% drank herbal tea to increase their milk. Furthermore, it was found that percentage of mothers with a high educational level who consume herbal tea (17.8%) is higher than those with low educational level (4.0%). This study results could be useful in targeted interventions for lactating women.

There are some strengths and limitations of this study. To date, few studies have investigated the mothers' knowledge and behaviors regarding breast milk, complementary feeding, and traditional practices for increasing breast milk based on the education level of mother. All the interviews were conducted by the author, thus ensuring a consistent technique and interpretation of the answers given. Bias may arise because of the design of the study and type of sampling. For inclusion in this study, limiting the child's age to a maximum of 2 years diminished the risk of recall bias. This was designed as a pilot study and therefore the sample chosen is not representative and the conclusions cannot be generalized. Future studies should consider multiple centres.

CONCLUSION

In conclusion, the rate of exclusive breastfeeding in the first 6 months was found to be 60.0%, which was above the 2018 data of Turkey Demographic and Health Survey. Although it is thought that the knowledge of mothers about the importance of breastfeeding has increased, the rate of exclusive breastfeeding in the first 6 months is still not at the desired level. Even though this study found no correlation between breastfeeding in the first six months and the educational level of the mother, breastfeeding frequency was significantly related to the level of education. This result suggests that mothers with a high level of education cannot breastfeed their babies every time they cry, as they are more involved in working life. Moreover, the mother's educational level was significantly associated with the rate of obtaining information from healthcare professionals before and after birth. Healthcare personnel assume a critical role in educating mothers about breastfeeding, correcting their improper practices, and emphasizing the necessity of exclusive breastfeeding for the first six months.

AUTHORS' CONTRIBUTIONS

The authors are responsible for the research and have participated in the concept, design, analysis and interpretation of the data, writing and correction of the manuscript.

COMPETING INTERESTS

The authors state that there are no conflicts of interest in preparing the manuscript.

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